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EXAMINER

WASHBURN, DANIEL C

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2628

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/644,273	Applicant(s) CARROLL, JEREMY JOHN	
	Examiner DANIEL WASHBURN	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19, 22, 25, 26 and 28-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19, 22, 25, 26 and 28-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments, see page 1 of the remarks, filed 3/21/08, with respect to the 35 USC Section 101 rejection have been fully considered and are persuasive. Thus, the 35 USC Section 101 rejection of claims 19, 22, and 32 has been withdrawn.

Allowable Subject Matter

The indicated allowability of claims 15-18, 25, and 26 is withdrawn in view of the newly discovered reference(s) to Hussam (US 2003/0050927) and Ryall et al. (US 6,774,899). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 19 includes the language, "inter alia," which renders the scope of the claim indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-19, 22, 25, 26, and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hussam (US 2003/0050927) in view of Ryall et al. (US 6,774,899).

RE claims 1, 15, 19, and 22, Hussam describes a system, method, and computer program stored on a computer readable medium for creating an RDF graph with a plurality of blank nodes (0093-0101 describes that RDF models can be represented graphically using node and arc diagrams, as illustrated in Figure 2. Further, 0100-0101 and Figure 4 describe a node that doesn't have a URI associated with it. Hussam describes that such nodes are referred to as anonymous (or blank) nodes. Thus, Hussam describes creating an RDF graph with a plurality of blank nodes).

Hussam doesn't describe but Ryall describes a method and computer program stored on a computer readable medium (2:66-3:3) for processing data in a data processing system, the method comprising the steps of:

processing input data provided in the format of a data file in said data processing system (3:14-21 describes that the graph display area 110 of the user interface 100 displays the nodes and edges of a graph, where the graph information is stored in the memory 20 and processed by the CPU 10)

in accordance with a first set of rules, which operate in said data processing system to define a stage at which such a processing operation ceases (3:21-4:9 describes that a user may select one or more nodes on the displayed graph and apply one or more visual organization features (VOFs) to the selected nodes. The VOFs include sequential placement, clustering, zoning, T-shaped constraints, alignment, even

spacing, symmetry, and a hub shaped design. Applying the VOFs to selected nodes is considered processing the selected nodes in accordance with a first set of rules, which operate until the selected nodes are re-ordered, at which point the system ceases processing);

applying to the partly-processed data a second set of rules, which operate in said data processing system to modify the data, so that the modified data may be processed in accordance with a third set of rules (3:31-32 and 4:10-21 describes that selection button 143 is used for adding or changing text labels on the nodes, thus the user adding or changing text labels on the nodes is considered modifying the data according to a second set of rules, where the modified data may be processed with a third set of rules (e.g., applying one or more VOFs to the modified nodes))

and then outputted as a output data file from said processing system (3:10-13 describes that a printer 60 may be connected to the CPU in order to make a hard copy of the graph when complete. Further, 2:66-3:1 and 3:19-21 describes that the memory 20 stores previous graphs that have been manipulated by the user, which inherently implies that a user is able to save an altered graph to memory 20. Thus, the system outputting a graph to the printer 60 or the memory 20 is considered outputting the modified graph from the processing system),

wherein the method is used to canonicalize a graph expressed as said input data, the graph having a plurality of nodes (3:14-4:21 describes canonicalizing a graph using one or more VOFs),

wherein the first set of rules include generating a representation of the graph and ordering the representation, the plurality of nodes being substantially omitted from the ordering process (3:14-4:21 describes selecting one or more nodes on the graph and applying one or more VOFs to the selected nodes. Applying one or more VOFs (e.g., sequentially order nodes or arrange nodes in a T-shape layout) to one or more selected nodes is considered ordering the representation of a generated graph, wherein a plurality of nodes (i.e., the nodes that weren't selected) are omitted from the ordering process);

wherein the second set of rules include assigning a label to each of a number of the plurality of nodes and modifying the portion of the nodes remaining unlabelled (3:31-32 and 4:10-21 describes that a user can use selection button 143 to add or change text labels on the nodes, which is considered assigning a label to each of a number of the plurality of nodes and modifying the portion the nodes remaining unlabelled, as the user writes a description into the nodes that he selects for editing); and

wherein the third set of rules include reordering the representation, the reordered representation comprising the output data (3:14-4:21 describes that after a user has added labels to the nodes the user can apply one or more VOFs to the nodes, where the VOFs are considered to reorder the representation. Further, 3:11-13 describes that a printer 60 may be connected to the CPU in order to make a hard copy of the graph when complete; thus, the reordered presentation comprises the output data).

Ryall doesn't explicitly describe blank nodes; however, if Hussam is modified to include the graph manipulation system described in Ryall then the graph manipulation

system described in Ryall would be used to apply VOFs and node labels to the RDF graph disclosed in Hussam. Thus, the combination is considered to suggest a system and method wherein

the method is used to canonicalize an RDF graph expressed as said input data, the RDF graph having a plurality of blank nodes (0101 of Hussam describes anonymous nodes),

wherein the first set of rules include generating a representation of the RDF graph and ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process (Ryall describes that specific nodes can be selected in order to apply VOFs to the selected nodes (see above), thus, given the teachings of Hussam that some RDF nodes are blank nodes, a user is considered to be able to omit blank nodes from the selection of nodes);

wherein the second set of rules include assigning a label to each of a number of the plurality of blank nodes and modifying the portion of the blank nodes remaining unlabelled (Ryall describes adding labels to nodes (see above), thus, given the teachings of Hussam that some RDF nodes are blank nodes, a user is considered to be able to label the blank nodes); and

wherein the third set of rules include reordering the representation, the reordered representation comprising the output data (once again, Ryall describes that specific nodes (which may include all the nodes) can be selected in order to apply VOFs to the selected nodes (see above)).

All the elements of claim 1 are known in Hussam in view of Ryall, the only difference is the combination of known elements into a single system and method.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Hussam the system and method of processing data in a data processing system, the method comprising the steps of:

processing input data provided in the format of a data file in said data processing system in accordance with a first set of rules, which operate in said data processing system to define a stage at which such a processing operation ceases;

applying to the partly-processed data a second set of rules, which operate in said data processing system to modify the data, so that the modified data may be processed in accordance with a third set of rules and then outputted as a output data file from said data processing system, wherein the method is used to canonicalize an RDF graph expressed as said input data, the RDF graph having a plurality of blank nodes,

wherein the first set of rules include generating a representation of the RDF graph and ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process;

wherein the second set of rules include assigning a label to each of a number of the plurality of blank nodes and modifying the portion of the blank nodes remaining unlabelled; and

wherein the third set of rules include reordering the representation, the reordered representation comprising the output data,

as suggested by Ryall, as the additional functionality of manipulating the RDF graph in order to make it more visually organized and thus easier to understand doesn't change the basic structure and relationships of the elements that make up the RDF graph, and it could be used to achieve the predictable result of allowing a user to quickly and easily make modifications to the graph without requiring the user to manually adjust the position of each node when (1) changing the overall ordering of the graph or (2) rebalancing the graph to make it easier to understand.

RE claim 2, Hussam doesn't describe but Ryall describes a method according to claim 1 wherein the first and third sets of rules are the same (3:14-4:21 describes the VOFs, which are the first and third sets of rules, as described above). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 3, Hussam doesn't describe but Ryall describes a method according to claim 1 wherein the modification in accordance with the second set of rules modifies the data (3:31-32 and 4:10-21 describes that a user can add or change the text labels on nodes (second set of rules) using selection button 143). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 4, Hussam doesn't describe but Ryall describes a method according to claim 3 wherein the first and third set of rules reorder the data, but do not otherwise modify the data (3:14-4:21 describes that the VOFs are used to reorder the data, but do not otherwise modify the data). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 5, Hussam and Ryall both describe a method according to claim 1 wherein the input data is graphically represented data (Hussam: 0094-0104 describes that RDF uses XML syntax as a means to store and transfer the graphically represented RDF information, and Ryall: 2:66-3:1 and 3:19-21 describes that the graph data is stored in memory 20 in order to allow the CPU to access it and generate the graph on a display device). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 6, Hussam describes a method according to claim 5 wherein the input data is a text file describing an RDF graph (0094-0104 describes that the input data is an XML file that describes an RDF graph).

RE claim 7, Hussam doesn't describe but Ryall describes a method according to claim 1 wherein the first set of rules perform a deterministic modification of the data (3:14-4:21, the VOFs are considered deterministic modifications of the data). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 8, Hussam doesn't describe but Ryall describes a method according to claim 3 wherein the modifications include the deletion of deterministic data (3:34 describes selection button 145, which is used to delete nodes). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 9, Hussam doesn't describe but Ryall describes a method according to claim 3 wherein the modifications include the addition of deterministic data (3:31-32 describes that a user can add or change text labels on nodes). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 10, Hussam doesn't describe but Ryall describes a method according to claim 9 wherein the additions are distinguishable from data which is, prior to performance of any modifications, deterministic (3:31-32 and 4:10-21 describes that a user can add or modify labels on nodes, the new labels are considered distinguishable from the old labels). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 11, Hussam describes a method according to claim 1 wherein the data describes an ontology (0093-0104 describes that the RDF triples (i.e., resource, property type, and value) describe an ontology).

RE claim 12, Hussam doesn't describe but Ryall describes a method according to claim 1 further comprising the step of processing the data in accordance with the third set of rules (3:14-4:21 describes that the VOFs can be applied to any or all nodes, which is considered to include nodes that have been modified by a user). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 13, Hussam describes a method according to claim 12, further comprising the step of writing or verifying a digital signature establishing authenticity of the data (0103-0104 describes that RDF also provides digital signatures that will be key to building the 'Web of Trust' for electronic commerce, collaboration and other applications).

Hussam doesn't describe that the step of writing or verifying the digital signature is subsequent to the processing of the data in accordance with the third set of rules.

However, given that Ryall describes manipulating the layout of a graph, such as an RDF graph (as suggested by Hussam in view of Ryall), and the verification of the digital signature is designed to determine the authenticity of received data, it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Hussam in view of Ryall the system and method wherein the step of writing or verifying the digital signature is subsequent to the processing of the data in accordance with the third set of rules, as this doesn't change the overall operation of either system, and it could be used to achieve the predictable result of creating an RDF graph with a specific layout, as controlled by the VOFs described in Ryall, and then creating and including a digital signature with the RDF graph, in order to allow recipients of the RDF graph to verify its authenticity.

RE claim 14, Hussam doesn't describe but Ryall describes a method according to claim 1 wherein reapplying the method of claim 1 to data processed in accordance with such a method does not result in any further modification of the data (the rejection of claim 1 describes applying VOFs to a selected subset of nodes, labeling nodes that weren't involved in the manipulation by the VOFs, and then applying VOFs to all the nodes, as supported by 3:14-4:21. Thus, if these steps are repeated for a graph that has already been processed in this manner, then the process will not result in any further modification of the data). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claims 16 and 28, Hussam describes an RDF graph that includes blank nodes (0096-0101).

Hussam doesn't describe but Ryall describes a method according to claims 1 and 15, wherein the modification of the nodes comprises deleting said nodes (3:34 describes that selection button 145 is used to delete nodes).

Given that Hussam discloses a system and method for creating an RDF graph that includes blank nodes, and Ryall describes a system and method for manipulating graphs, which includes deleting nodes, the combination is considered to suggest a method according to claims 1 and 15, wherein the modification of the unlabelled blank nodes comprises deleting said blank nodes. See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claims 17 and 29, Hussam describes an RDF graph that includes blank nodes (0096-0101).

Hussam doesn't describe but Ryall describes a method according to claims 1 and 15, wherein the modification of the nodes comprises adding data to said representation such that the remaining nodes can be labelled and labelling said nodes accordingly (3:31-32 describes that selection button 143 is used for adding or changing text labels on nodes).

Given that Hussam discloses a system and method for creating an RDF graph that includes blank nodes, and Ryall describes a system and method for labeling nodes on a graph, the combination is considered to suggest a method according to claims 1 and 15, wherein the modification of the unlabelled blank nodes comprises adding data to said representation such that the remaining unlabelled blank nodes can be labelled

and labelling said blank nodes accordingly. See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claims 18 and 30, Hussam describes a method according to claim 15 wherein the representation is an N-Triple document (0096 describes that RDF is based on a mathematical model that provides a mechanism for grouping together sets of very simple metadata statements known as triples).

Hussam doesn't describe but Ryall describes that the ordering is in a lexicographic ordering (3:42-49 describes that one of the VOFs places the nodes in sequential order). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 25 Hussam describes a method of signing an RDF graph comprising the steps of generating a signature in the form of a triple (0103-0104 describes that resource description communities require the ability to record certain things about certain kinds of resources. For example, in describing bibliographic resources, it is common to use descriptive attributes such as 'author', 'title', and 'subject'. For digital certification, attributes (considered to be included as part of one or more triples) such as 'checksum' and 'authorization' are often required). The remaining limitations in claim 25 are identical in scope to the limitations addressed in the rejection of claims 1, 15, 19, and 22; thus, they have already been addressed in the office action.

RE claim 26, Hussam describes a method according to claim 25 further comprising the step of including the signature triple with other triples of the graph (0103-

0104 describes triples with attributes such as 'checksum' and 'authorization'; thus, the signature triple is considered to be included with other triples in the graph).

RE claims 31 and 32, Hussam doesn't describe but Ryall describes a method and computer program according to claims 1 and 19 wherein said stage at which the processing operation ceases occurs prior to all of input data in said data file being processed by said data processing system (3:14-41 describes that a user may select one or more nodes, which is considered to include selecting less than all of the nodes present on the display, and then apply one or more VOFs to the one or more nodes. Thus, the stage at which the processing operation ceases occurs prior to all of input data in said data file being processed by said computer system, as the VOFs have been applied to less than all the nodes). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nomiya et al. (US 6,911,978 describes creating graphs with blank nodes, where a user is able to label the blank nodes (10:18-62) and non-patent literature "Unparsing RDF/XML" by Jeremy J. Carroll describes serializing an RDF graph into a humanly readable document.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL WASHBURN whose telephone number is (571)272-5551. The examiner can normally be reached on Monday through Friday 8:30 a.m. to 5:00 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dan Washburn/
Examiner, Art Unit 2628
6/12/08

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